

ABSTRACT OF THE DISCLOSURE

OPPOSING SPRING RESILIENT TENSION SUSPENSION SYSTEM

A suspension system for chassis and/or body sprung weight and a plurality of wheel axle supports to carry a portion of the unsprung weight. The system has a load spring between the chassis and/or body and wheel axle support preloaded to a ride height. A member between the wheel axle support and the chassis and/or body exerts increasing force with motion of the unsprung weight relative to the chassis and/or body. The member has increasingly less force on the load spring during jounce beyond the ride height as the member resists the motion of unsprung weight. The member free length of travel cooperates with the load spring jounce deflection so the travel and the deflection overlap as the member moves. The member is a coil, tension or air spring in tension or compression. The load spring constant K carries sprung weight and the member constant K_r resists the rebound motion of the sprung weight so K to K_r is a function of the amount of roll resistance. The coil load spring is coaxial and its axis are normal to the chassis and/or body and each wheel axle support. The coil load spring has a volume for locating its coil tension spring therein or the coil tension spring is spaced from the coil load spring along a tension spring axis generally parallel to the load spring. The wheel axle support has a rod fixed to the chassis and/or body extending along the line for supporting a suspension platform along a path. Each platform reciprocates along the path with and between the coil load spring and the coil control spring during jounce and rebound; the platform affixes to the wheel axle support. A method steps for the opposed suspension have the bolster between the chassis and/or body and the wheel axle support to carry it when preloaded a preset ride height, affixing a member at each wheel axle support and the chassis and/or body to exert force as a function of motion of the unsprung weight relative to the chassis and/or body, and mounting the member for movement between the chassis and/or body and the wheel axle support while applying increasingly less force to the load bolster and the member applies more force resisting the motion of unsprung weight on the wheel axle support.